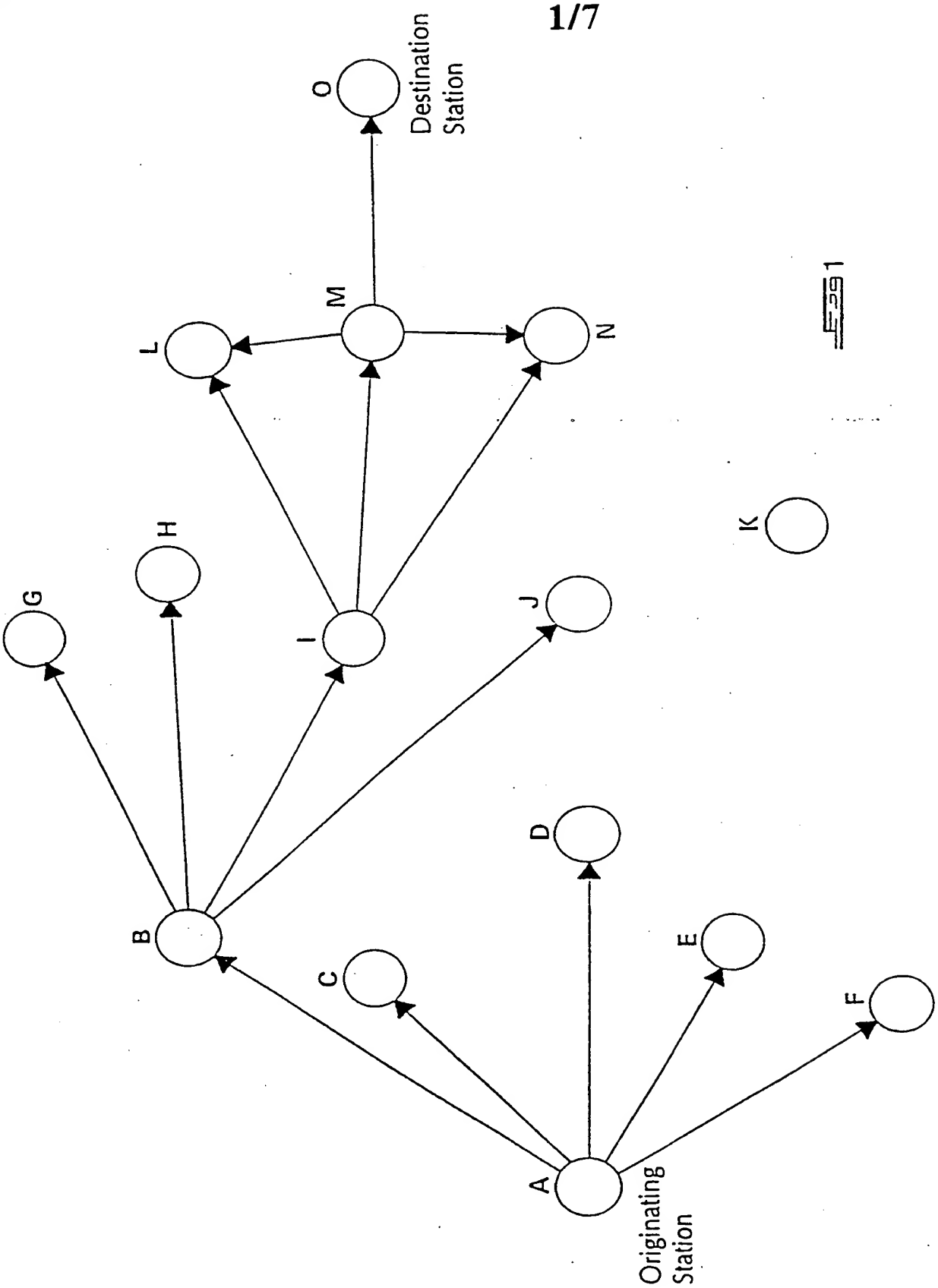

O
Destination Station
M
L
N
K
H
G
I
J
D
B
C
E
F
A
Originating Station

Fig 1

Fig 2

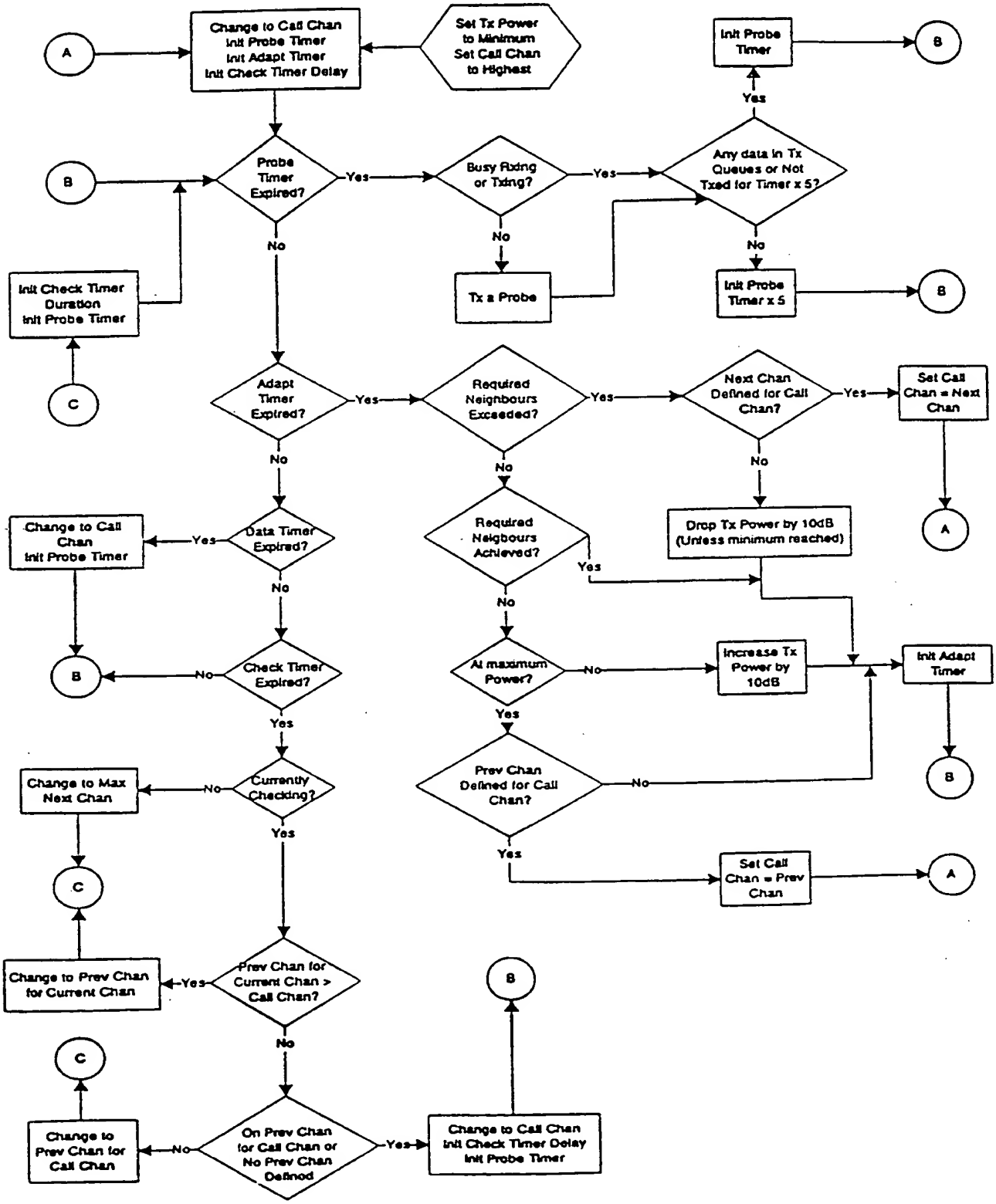

A
Change to Call Chan
Init Probe Timer
Init Adapt Timer
Init Check Timer Delay
Set Tx Power to Minimum
Set Call Chan to Highest
B
Probe Timer Expired?
Yes
Busy Rxing or Txing?
Yes
Any data in Tx Queues or Not Txed for Timer x 5?
Yes
Init Probe Timer
B
No
No
No
Init Check Timer Duration
Init Probe Timer
Tx a Probe
Init Probe Timer x 5
B
C
Adapt Timer Expired?
Yes
Required Neighbours Exceeded?
Yes
Next Chan Defined for Call Chan?
Yes
Set Call Chan = Next Chan
No
No
No
Change to Call Chan
Init Probe Timer
Data Timer Expired?
Yes
Required Neigbours Achieved?
Drop Tx Power by 10dB (Unless minimum reached)
A
No
Yes
B
No
Check Timer Expired?
No
At maximum Power?
No
Increase Tx Power by 10dB
Init Adapt Timer
Yes
Yes
B
Change to Max Next Chan
No
Currently Checking?
Prev Chan Defined for Call Chan?
No
Yes
Yes
C
Set Call Chan = Prev Chan
A
Change to Prev Chan for Current Chan
Yes
Prev Chan for Current Chan > Call Chan?
B
No
C
Change to Prev Chan for Call Chan
No
On Prev Chan for Call Chan or No Prev Chan Defined
Yes
Change to Call Chan
Init Check Timer Delay
Init Probe Timer

FIG 3

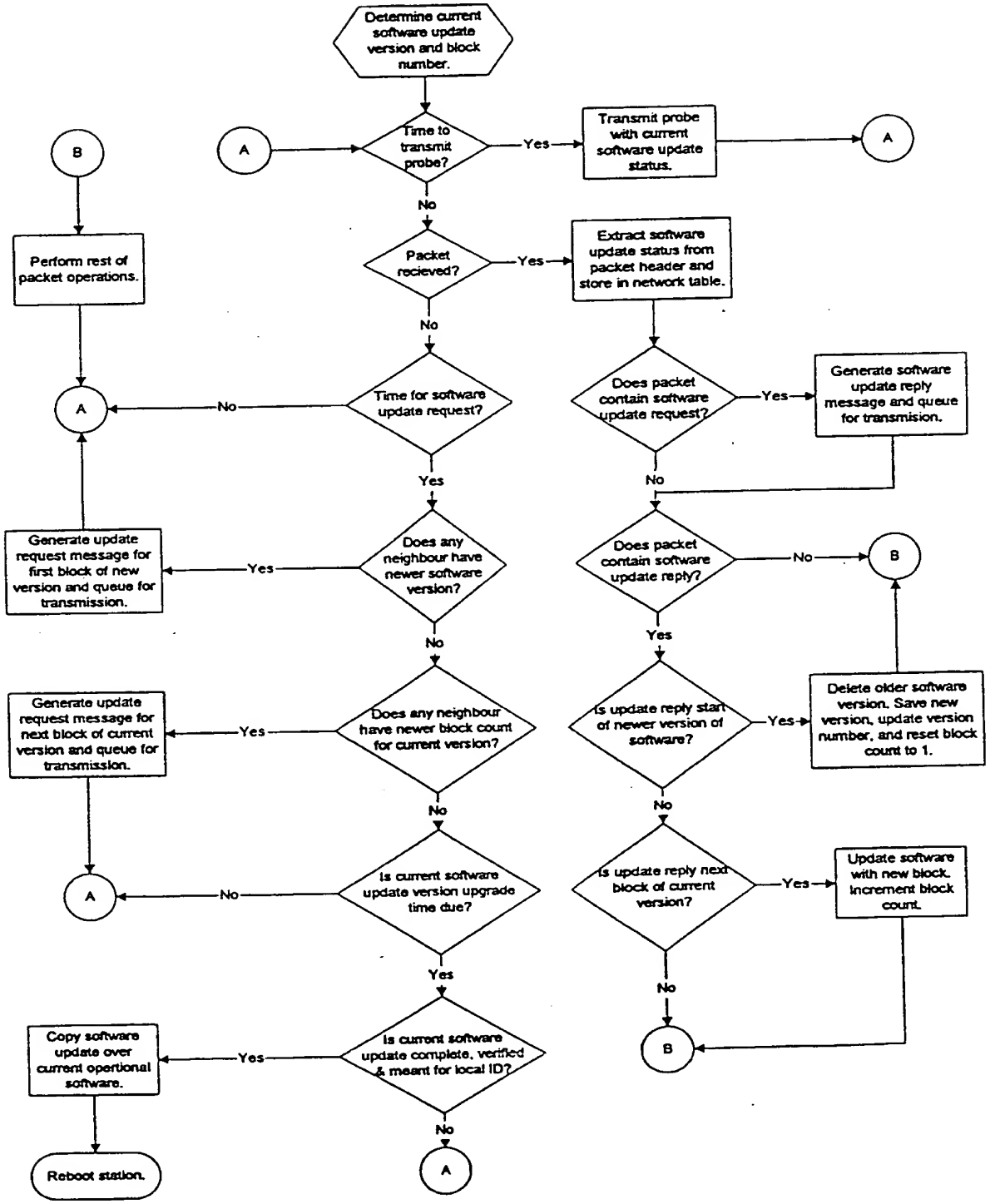
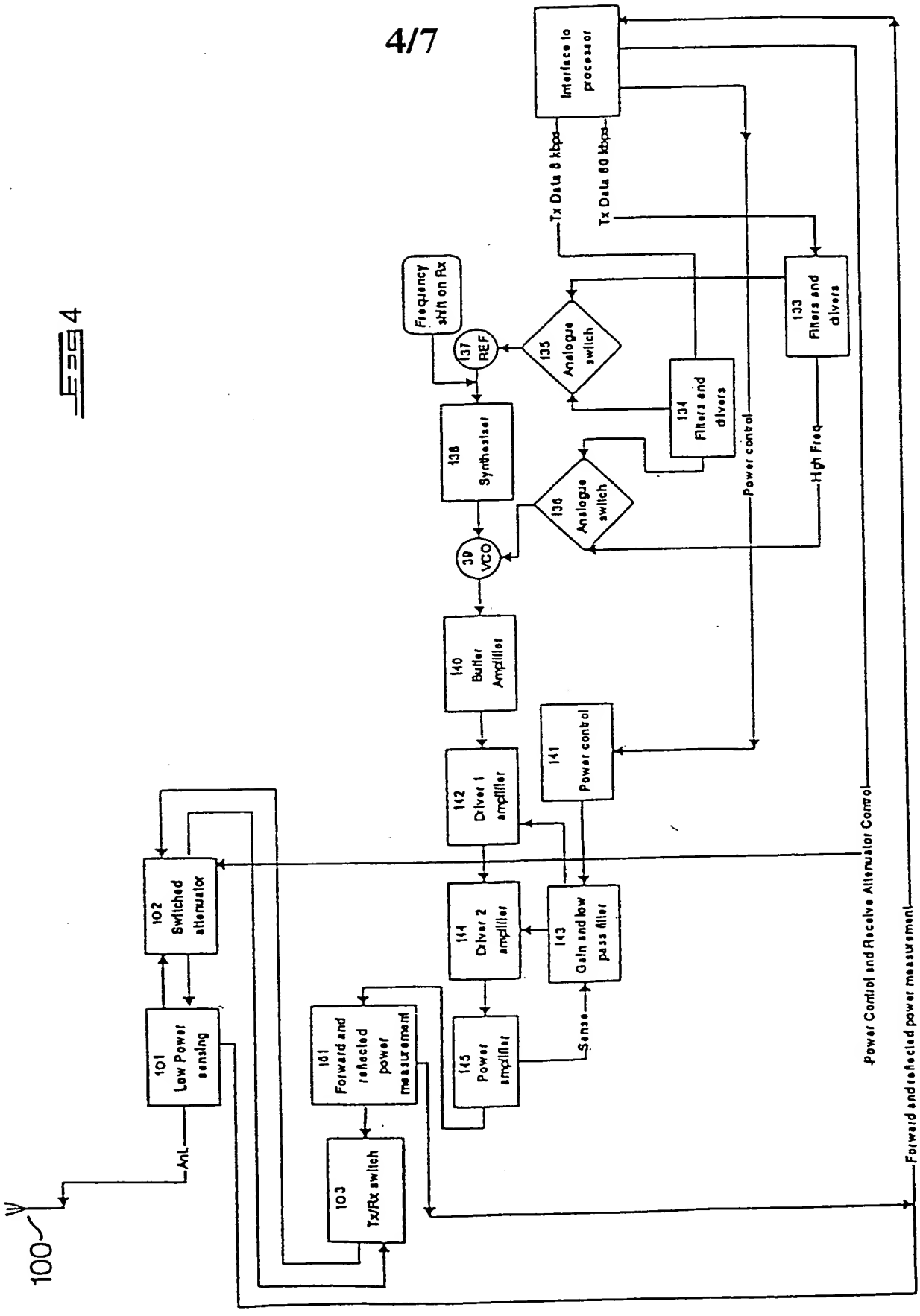

Determine current software update version and block number.
A
Time to transmit probe?
Yes
Transmit probe with current software update status.
A
No
B
Perform rest of packet operations.
Packet recieved?
Yes
Extract software update status from packet header and store in network table.
No
A
No
Time for software update request?
Does packet contain software update request?
Yes
Generate software update reply message and queue for transmision.
Yes
No
Generate update request message for first block of new version and queue for transmission.
Yes
Does any neighbour have newer software version?
Does packet contain software update reply?
No
B
No
Yes
Generate update request message for next block of current version and queue for transmission.
Yes
Does any neighbour have newer block count for current version?
Is update reply start of newer version of software?
Yes
Delete older software version. Save new version, update version number, and reset block count to 1.
No
No
A
No
Is current software update version upgrade time due?
Is update reply next block of current version?
Yes
Update software with new block. Increment block count.
Yes
No
Copy software update over current opertional software.
Yes
Is current software update complete, verified & meant for local ID?
B
Reboot station.
No
A

Fig 4


Interface to processor
Tx Data 8 kbps
Tx Data 80 kbps
Frequency shift on Rx
137 REF
135 Analogue switch
133 Filters and drivers
134 Filters and drivers
138 Synthesiser
136 Analogue switch
Power control
High Freq
39 VCO
140 Buffer Amplifier
141 Power control
142 Driver 1 amplifier
144 Driver 2 amplifier
143 Gain and low pass filter
145 Power amplifier
Sense
102 Switched attenuator
101 Low Power sensing
181 Forward and reflected power measurement
103 Tx/Rx switch
Ant
100
Power Control and Receive Attenuator Control
Forward and reflected power measurement

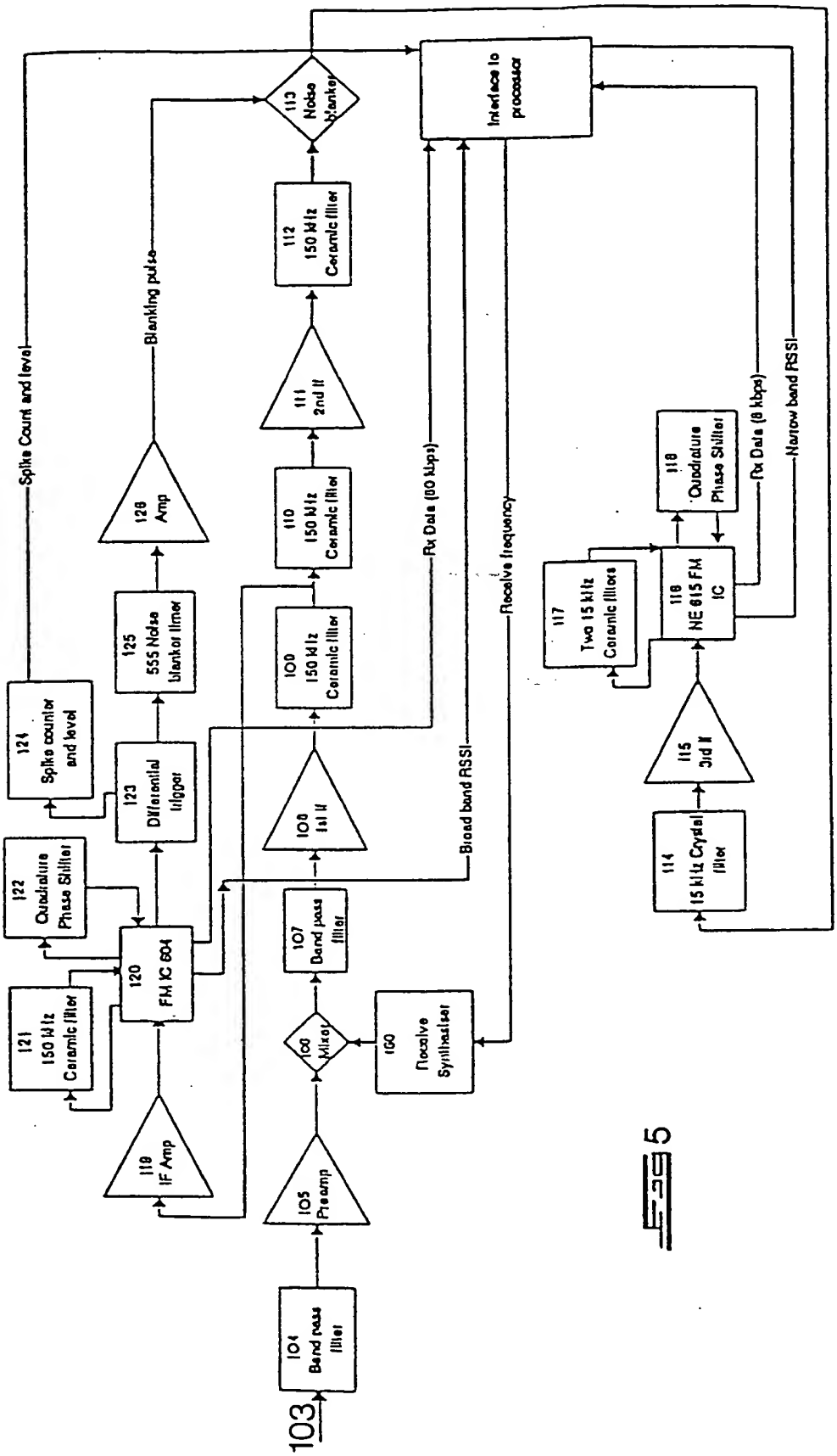

103
104 Band pass filter
105 Preamp
106 Mixer
107 Band pass filter
108 1st IF
109 Noise blanker
110 150 kHz Ceramic filter
111 2nd IF
112 150 kHz Ceramic filter
113 Noise blanker
114 15 kHz Crystal filter
115 3rd IF
116 NE 615 FM IC
117 Two 15 kHz Ceramic filters
118 Quadature Phase Shifter
119 IF Amp
120 FM IC 604
121 150 kHz Ceramic filter
122 Quadature Phase Shifter
123 Differential trigger
124 Spike counter and level
125 555 Noise blanker timer
126 Amp
160 Receive Synthesiser
Interface to processor
Spike Count and level
Blanking pulse
Rx Data (80 kbps)
Receive frequency
Broad band RSSI
Rx Data (8 kbps)
Narrow band RSSI

Fig 5

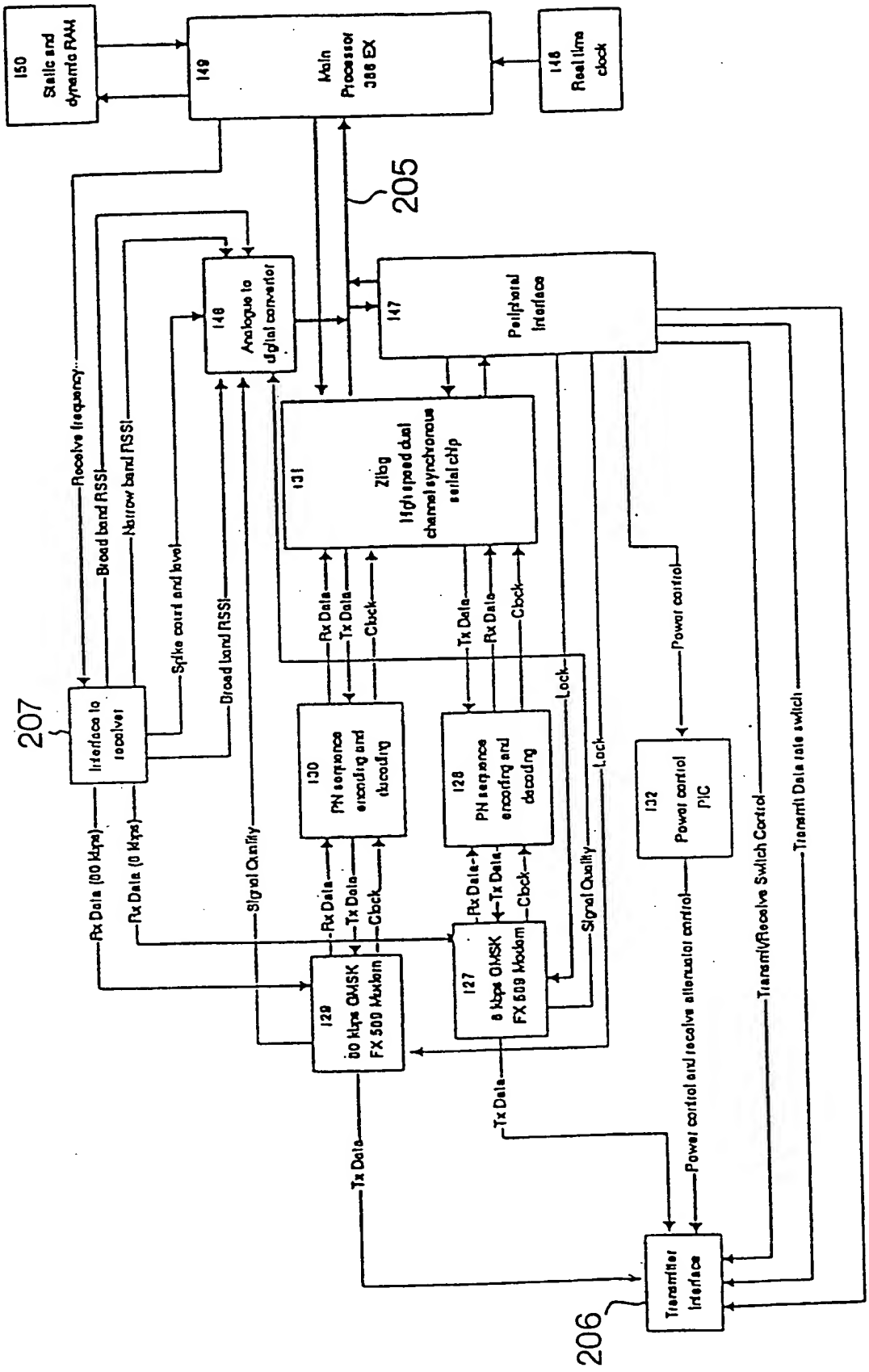

150 Static and dynamic RAM
149 Main Processor 386 EX
148 Real time clock
205
146 Analogue to digital converter
147 Peripheral Interface
131 Zilog High speed dual channel synchronous serial chip
Receive frequency
Broad band RSSI
Narrow band RSSI
Spike count and level
Broad band RSSI
Rx Data
Tx Data
Clock
Tx Data
Rx Data
Clock
Power control
Lock
207
Interface to receiver
130 PN sequence encoding and decoding
128 PN sequence encoding and decoding
132 Power control PIC
Rx Data (80 Kbps)
Rx Data (8 Kbps)
Signal Quality
Rx Data
Tx Data
Clock
Rx Data
Tx Data
Clock
Signal Quality
Lock
129 80 Kbps QMSK FX 609 Modem
127 8 Kbps QMSK FX 609 Modem
Tx Data
Tx Data
Power control and receive attenuator control
Transmit/Receive Switch Control
Transmit Data rate switch
206
Transmitter Interface

FIG 6

7/7

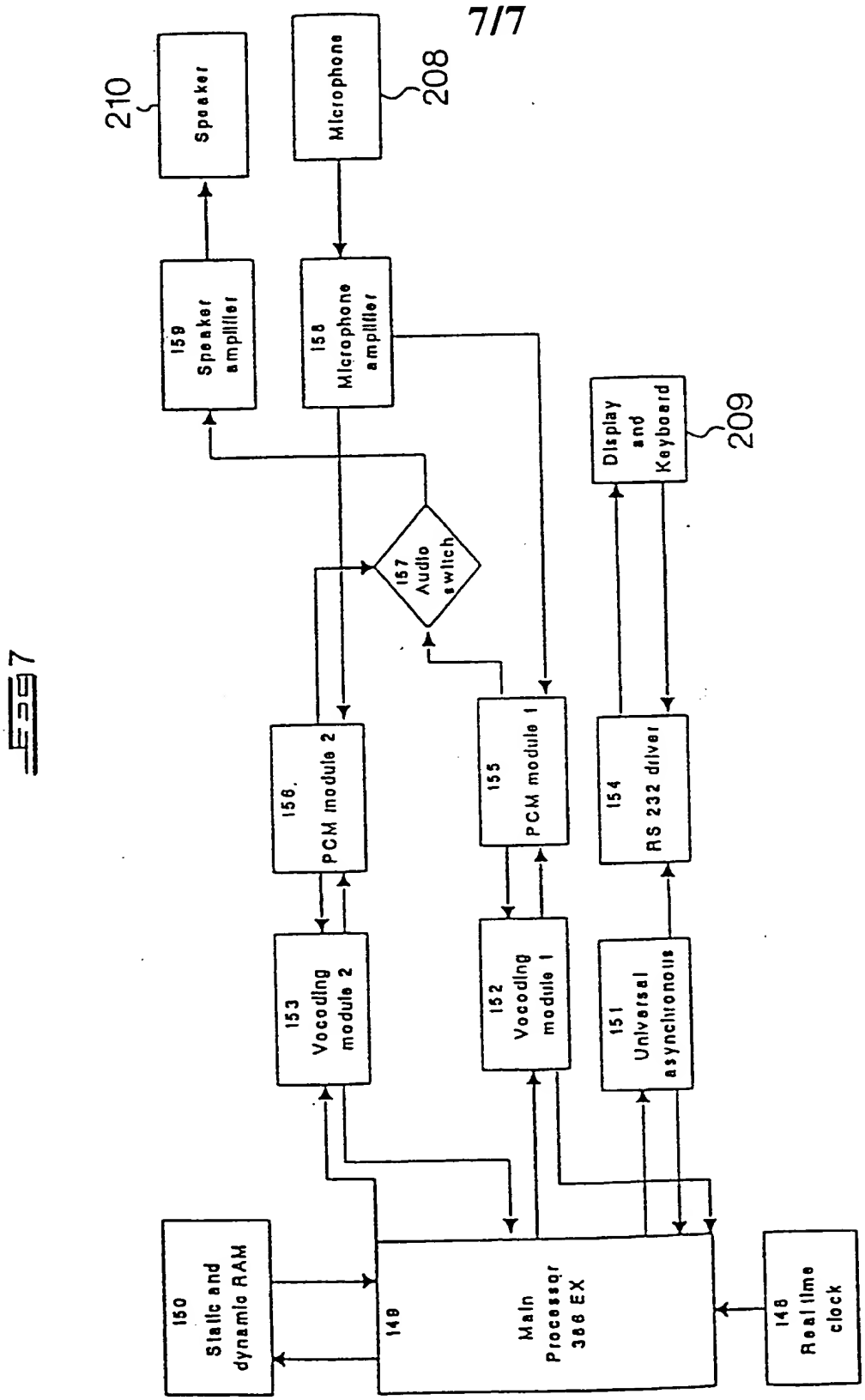

210
Speaker
Microphone
208
159
Speaker amplifier
158
Microphone amplifier
Display and Keyboard
209
157
Audio switch
156
PCM module 2
155
PCM module 1
154
RS 232 driver
153
Vocoding module 2
152
Vocoding module 1
151
Universal asynchronous
150
Static and dynamic RAM
149
Main Processor 386 EX
148
Real time clock

Fig 7